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ABSTRACT

This booklet presents evidence which links the effects of unplanned pregnancies on the health of the mother and child. The first section identifies the causes of high mortality and morbidity rates among children. Teenage child-bearing, child-bearing past the age of 35, family size and birth intervals are discussed. The second section presents evidence of numerous and serious health risks to mothers whose pregnancies occur too early in life, too close together, or too often. The hazards of illegal abortion and the benefits of contraception are indicated. Women are advised to (1) postpone the first pregnancy until they are past the age of 20, (2) plan for a gap of 2 and one half to 4 years between subsequent pregnancies, (3) bear no children after the age of 36, and (4) limit family size. Information and service needs of teenagers, young and older women are indicated. Data from developed and developing countries are included in both sections of the booklet. (Author/RH)

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THE CHILD, THE FAMILY AND RESPONSIBLE PARENTHOOD

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THE CHILD, THE FAMILY AND RESPONSIBLE PARENTHOOD

INTRODUCTION

The United Nations General Assembly has proclaimed 1979 the International Year of the Child. It has called on governments and non-governmental organizations to join forces during IYC to "Promote recognition of the fact that programmes for children should be an integral part of economic and social development plans, with a view to achieving, in both the long and short term, sustained activities for the benefit of children at the national and international levels." The needs of children have thus been added to the list of world priorities - women's development, population policies, environmental protection, adequate human settlements and adequate food and water supplies.

On numerical grounds alone, children merit attention. UNICEF, the agency responsible for coordinating IYC, has noted that nearly 36 per cent of the world's four billion people are children under the age of 15. Some 865 million live in developing countries, and 500 million live in countries threatened by malnutrition. UNICEF has calculated that malnutrition or chronic undernutrition threatens the physical and mental growth of more than 100 million children under five, and at least 10 million young children are at any time so seriously malnourished that their lives are at risk. Infant mortality in developing countries is several times that of industrial countries.

Population growth rates in many parts of the developing world, and particularly urban growth rates, are outstripping social and medical services and educational facilities. If the pace of development is not altered, schools will be able to accommodate only 350 million children in

1985, while 375 millio will be without teachers and classrooms.

Children in the developed world face difficulties as well. Child abuse and adolescent delinquency is now a matter for public concern in many countries. The growing number of teenage pregnancies, particularly in North America, means many babies are born to young parents, with prospects of a bleak future.

UNICEF has included family planning in the priorities for IYC. The evidence is overwhelming that children whose births are planned - and spaced - get a better start in life. UNICEF sees family planning as part of child health care and adequate nutrition and supportive services for girls and women.

Child morbidity and mortality are fundamentally the result of poor economic and social conditions. The most effective way to reduce deaths and other health risks of pregnancy is to implement major social reforms which will lead eventually to adequate diet, medical care, shelter and education throughout societies. These cannot be achieved overnight: they require massive longterm commitment of human and physical resources. On the other hand, by voluntarily restricting the period of childbearing and by spacing and limiting births, individual couples can ensure for themselves that they and their children are exposed to the minimum risk prevalent in their societies.

A pregnancy is more likely to be normal and the baby's chances of survival improved if the mother has time to recover physically from the previous pregnancy, and time to nurse and wean one baby before becoming pregnant again.

Family planning helps women confine childbearing to the best years of their lives from a reproductive point of view. Children born to adolescent mothers have a greater risk of dying in the first year of life, than children born to women between the ages of 20 and 35. At the other end of the scale, pregnancy can be risky for older women. Certain congenital malformations, especially chromosomal aberrations, are associated with pregnancy in older women. The size of the family can affect the child's prospects for life. There is evidence that the younger babies in large families have a higher death rate.

There is also evidence that children in larger families and those born too close together tend to receive less care and attention, and studies have shown that they develop more slowly, physically and mentally, than children from smaller families.

Family planners have come to realize that to be truly effective, their programmes must encompass more than mere distribution of contraceptive advice and supplies. They have become involved in the wider area of maternal and child health, women's development, nutrition and family life education, including sex education.

This paper, in two different sections entitled 'The Child' and 'The Mother', provides evidence which links the effects of too many pregnancies, too close together and too early or too late in the life of the mother, with the chances of survival and growth of the child and the health of both child and mother.

THE CHILD

Children are among the most vulnerable groups in a community. Not long ago, the United Nations reported that 23 per cent of the babies born in Gabon die before their first birthday. In India 14 per cent and in Mexico 6.1 per cent die during the first year of life.[1] While morbidity figures are not always available, there is reason to believe that the rates are very high in many other developing countries. For every child who dies, others may be afflicted for life with disease, or mental or physical handicap.

In the developed world, infant mortality rates have fallen dramatically: for example in Sweden the rate is 10 per thousand; it is 17 in Australia and 18 in the United Kingdom and the United States. Most of the decrease is a result of better nutrition and health facilities, following improved socio-economic conditions in these countries. Parents can also devote more time and resources to their children, because in most of the countries with low infant mortality rates the birth rate is also low.

The age of the mother, the number of years between pregnancies and the number of pregnancies, combined with health and environmental problems mentioned earlier, are the causes of high mortality and morbidity rates among children. Infant mortality remains high in those countries where adequate health facilities, nutrition and sanitation are not available. In many countries, therefore, families feel they need to have many pregnancies to ensure that some of their children will live and grow up. Hence the vicious circle of more children and higher mortality rates continues.

Too early

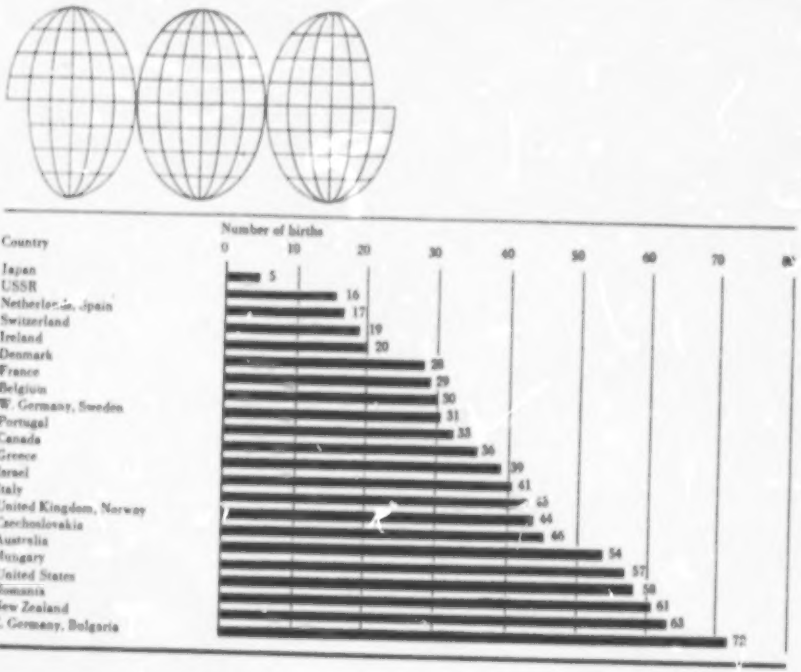
Teenage child-bearing is a serious social, economic and health problem in all regions and most countries of the world. Pregnancies occurring at too young an age, especially if repeated at short intervals, are risky for both mother and child, a fact particularly relevant in countries where girls marry in their teens, while they are themselves still growing. The risk is compounded further by widespread under-nutrition of mothers.

The proportion of all babies born to teenage mothers varies considerably among countries and mostly reflects the customary age of marriage for girls. Although urbanization and modernization seem to be resulting in boosting the average age of marriage the world over, girls in many parts of the poorer countries still normally marry in their mid-teens.[2]

But marriage alone does not determine the proportion of teenage to adult pregnancies. In the United States, for example, teenagers give birth to one-fifth of all infants - a ratio higher than that found in most developing countries. Although birth rates among adult women in the United States have dropped steadily in recent years, the teenage birth rate has scarcely declined at all. Thus births to teenagers account for a higher and higher percentage of total births in the United States. A third of teenage births - 200,000 every year - involve unwed mothers, and only the widespread use of abortion services prevents that figure from being higher. The rising number of births to unmarried teenagers represents serious health problems, together with an enormous social challenge.[3] This calls for the provision of special educational programmes for the young in responsible parenthood and family life, and also of contraceptive services for adolescents. The number of births per 1000 females ages 15-19 for selected countries for 1970 is given overleaf:

Figure 1:

NUMBER OF BIRTHS PER 1,000 FEMALES AGED 15-19, SELECTED COUNTRIES, 1970s



Source: Alan Guttmacher Institute (1976) 11 Million Teenagers: What can be done about the Epidemic of Adolescent Pregnancies in the United States. p.7. New York: Alan Guttmacher Institute.

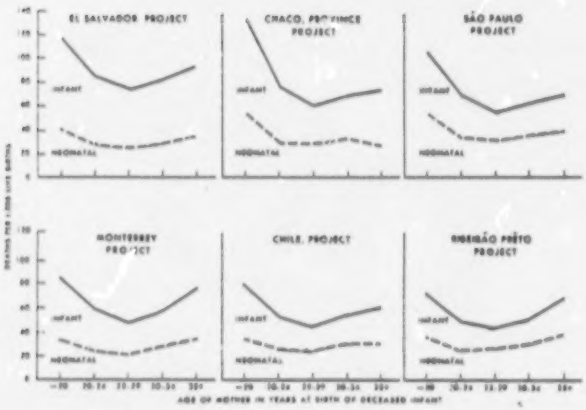
Another World Health Organization report has pointed out that children whose conception is unwanted by their parents may subsequently become loved, but this is less likely to occur than in the cases of children whose birth is desired from the beginning.[4] Children who are rejected are more likely than other children to have mental health problems. "Family planning", it recommends, "must form part of a wider community service that is educational in the broadest sense."

Children born to teenagers are much more likely to die before one year of age than those born to women in their 20s. The younger the teenage mother, the more likely her baby will die. Adolescent pregnancies, even when the mother is healthy, may impair the growth and development of both the mother and the child. Even a well-nourished girl under 16 years has only a 50 per cent chance of giving birth to a healthy baby and the odds are worse with each year of maternal age less than 16. It is also reported that children born to adolescent mothers are more likely to have growth impairment before the age of two.[5]

This is confirmed by a recent Pan American Health Organization (PAHO) survey of infant deaths in the Americas. In El Salvador, for example, 120 of every thousand babies born to teenage mothers died before their first birthday, compared to 73 per thousand born to mothers between the ages of 25 and 29; in Sao Paulo, Brazil, 104 of every thousand babies born to teenagers died before their first birthday compared with 53 per thousand born to mothers between the ages of 25 and 29.[6] Figure 2 overleaf gives the results of the studies in six project areas and confirms both that infant mortality is significantly higher for the teenage mother, and that the rates are lowest for mothers between 25 and 29 years of age.

Figure 2:

NEONATAL AND INFANT MORTALITY BY MATERNAL AGE
IN SIX LATIN AMERICAN PROJECTS OF THE INTER-AMERICAN
INVESTIGATION OF MORTALITY IN CHILDHOOD



Source: Puffer, R.R. & Serrano, C.V. (1975) Birthweight, Maternal Age and Birth Order: Three Important Determinants in Infant Mortality, p.5, Washington, D.C.: Pan American Health Organization (Scientific Publication No. 294).

These findings are not confined to Latin America. Among Californians, the PAHO survey revealed, 26 of every thousand infants born to mothers under age 20 died in their first year of life, compared with 15 per 1,000 born to mothers in their late twenties. In Iran, where women marry young and bear children early, the high death rate among the babies of young mothers is reflected in a proverb: "The first two are for the crows." In both poorer and richer regions of the Americas and, indeed, throughout the world, the tendency for the babies of teenagers to be born premature or underweight raises the infant's chances of early death. These babies succumb more readily than robust infants to infectious diseases and undernutrition.

Low birthweight (LBW) is probably the most important cause of high neonatal and infant mortality rates in the world. Exact figures on the global incidence of LBW are not available, but it is estimated that there are about 22 million live-born LBW babies per year. Only about 5 per cent of all LBW babies are born in developed countries, most of these premature, while the rest, around 21 million, are born in developing areas and roughly 16 million of them are small-for-date, full-term and not pre-term.[7]

Infants with low or deficient birth weight start life with increased susceptibility to infection and nutritional deficiency, and face a greater risk of a host of childhood illnesses and birth injuries, such as neurological defects, which may result in lifelong mental retardation, blindness, deafness, cerebral palsy and other physical handicaps including epilepsy.

Too late

At the other end of the age scale, babies born to women over 35 also face many risks. They too are more likely to be premature or underweight and

have higher risks of complications during childbirth. The mortality rate is also higher although lower than for babies of teenage mothers. As a woman gets older her reproductive efficiency tends to decline.[8]

A recent report from the US National Academy of Sciences found that infant mortality risks were highest for infants born of mothers under 15 years of age and those aged 45 and over, with rates of 43.5 and 47.9 live births respectively.[9] High relative risks were also found for infants of mothers ages 15-19 and 35-44 years, with the lowest risks recorded for infants of mothers in the intermediate age groups (20-34 years). These findings are confirmed by smaller surveys undertaken in Gujerat and in Indore in India.

Certain congenital malformations, especially chromosomal aberrations, are associated with parental age. The World Health Organization's Scientific Group on Genetic Disorders notes that the most important finding is the association between increasing maternal age and Down's Syndrome (mongolism); the victim of Down's Syndrome suffers from mental retardation and other disabilities. The incidence of this syndrome among infants is found to rise exponentially with the mother's age - ranging from near zero among the babies of young mothers to as many as 14 per thousand infants born to mothers over the age of 40, with the exact rate varying by country.[10]

Nowadays, with advances in medical services, some older women (mainly in developed countries) are able to take advantage of the new technique called amniocentesis which identifies certain congenital defects in the fetus. Many women choose abortion when Down's Syndrome is discovered.[11]

Too many

Evidence has accumulated from many parts of the world that the number of children born to a mother has a direct effect on the chances of survival and growth of those children. In this short text it is only possible to give some examples. Table 1 below shows the mortality by family size in one area of India where a study found that in each age group mortality increased with parity over one.[12] This increase was particularly marked in the second year mortality figures which increased four- to five-fold among children born after the third.

Table 1: MORTALITY OF 1,473 CHILDREN BORN IN ELEVEN PUNJAB VILLAGES BY PARITY OF MOTHERS, INDIA, 1955-1958

Parity of mother	1	2	3	4	5	6	7-12	Totals
Number of births	230	209	210	197	165	136	326	1,473
Infant mortality (deaths/1,000 infants up to 1 year	172	117	145	124	172	164	206	161*
Second-year mortality (deaths/1,000 pop.)	76	16	24	92	96	77	95	68*

* Average mortality for all parities

Source: Wyon, J.B. and Gordon, J.E. (1971) The Khanna Study: Population Problems in the Rural Punjab. Ch.7, Cambridge, Mass.: Harvard University Press.

Studies in Africa, Asia and Latin America have shown that children in large families not only receive poor maternal care but also run increased risk of undernutrition, leading to disease and early death. Doctors in Hyderabad, India, found that 61 per cent of all the severely undernourished children they saw were of the fourth or later birth order. Doctors have calculated that even without any other improvements in income, food availability, or medical care, "the limitation of family size to three children would bring down the incidence of severe forms of protein calorie malnutrition by at least 60 per cent".[13] The latest born children are usually the hardest hit, sometimes because of discrimination, especially against females in family food distribution, but also because, unlike their older siblings, they must live on reduced average portions during their nutritionally vulnerable early years.

Peris Muriuki, reporting on the conditions prevalent in East Africa, notes that a mother with many children to care and provide for, while she herself is weak and sickly from many pregnancies, cannot give the necessary attention required for the mental, physical and psychological development and growth of a child. Such a child may lack the warmth from the mother that stimulates appetite, and the mother may be too busy or too tired to ensure that each child finishes his food, so that he eats less than the body requires for growth and development.[14]

The parents of small families may be better able to foster the physical and mental development of their children by giving them more individual attention whereas in large families, no matter how great the parents' concern for their children's wellbeing, there is less opportunity for individual parent-children contact.[15]

Table 2: INTELLIGENCE QUOTIENTS OF CHILDREN AGED 9-14 YEARS IN DIFFERENT STUDY AREAS, BY CULTURE/RESIDENCE *

Culture/residence	No. in sample	Intelligence quotients of children of birth order:						Intelligence quotients of children in families of size:					
		1	2	3	4	5	6 and over	1	2	3	4	5	6 and over
India													
Muslim	906	97.41	98.23	98.36	100.06	99.39	96.29	(94.17)	103.10	94.26	98.37	101.11	97.85
Other Hindus	794	99.49	99.10	98.53	103.71	103.90	100.23	104.37	94.10	98.40	100.58	102.30	101.44
Vellala	810	99.83	101.14	104.35	102.60	102.08	100.00	103.79	104.11	102.02	102.96	98.74	94.80
Iran													
Armenian	896	105.48	101.[illegible]	99.[illegible]	103.[illegible]	97.99	100.83	(119.[illegible])	101.18	107.61	107.13	95.54	100.41
Philippines													
Rural	1296	98.87	98.53	98.20	96.84	95.90	88.01	(107.40)	100.31	97.10	99.25	99.67	95.30
Urban	900	103.71	106.84	104.14	105.72	104.07	97.83	(125.80)	(105.33)	106.75	105.48	1[illegible]3	103.23
Turkey													
Rural	1238	94.7	93.0	94.[illegible]	92.7	92.1	91.3	(91.3)	97.5	94.3	94.3	95.5	89.7
Urban	1058	110.7	110.2	106.9	102.7	104.9	103.6	(134.9)	129.0	11[illegible]1	106.6	104.8	100.9

* Figures in parentheses refer to fewer than 25 EW.

Source: World Health Organization (1976) Family Formation Patters and Health: an International Collaborative Study in India, Iran, Lebanon, Philippines and Turkey, p. 28, Geneva, WHO.

Too close together

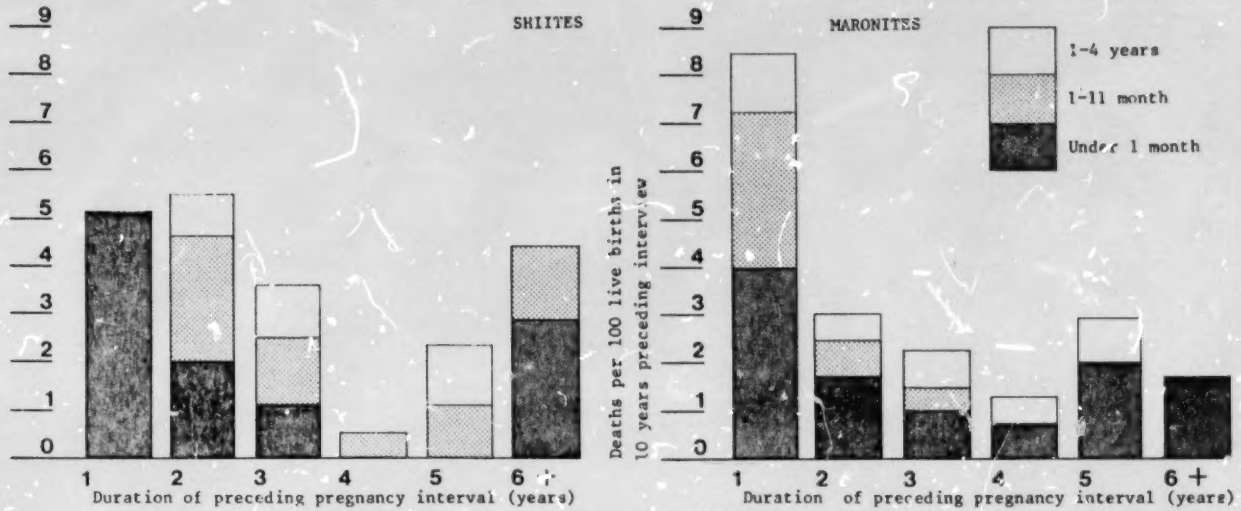
All these effects of having many children become more acute when births occur at short intervals. A pregnancy is more likely to be normal and the baby to live if the mother has had time to recover from the previous pregnancy, to adjust to the care of the new infant, and to regain her health and strength before becoming pregnant again.

An editorial in the British medical journal, The Lancet, noted that a rapid succession of pregnancies may result in the reduction of nutritional supplies to the fetus. This could lead to impaired intelligence even in infants who are full-term with birthweights in the normal range.[16]

A WHO study found that among the Shiite Muslims and Maronite Christians in Beirut, mortality risks for children under 5 years were high for children born at intervals of one year or less.[17] These declined as shown in Figure 3 for longer pregnancy intervals up to some years.

Figure 3:

CHILD MORTALITY DURING 10 YEARS PRECEDING INTERVIEW, BY CULTURE AND DURATION OF PRECEDING PREGNANCY INTERVAL



Source: World Health Organization (1976) Family Formation Patterns and Health: An International Collaborative Study in India, Iran, Lebanon, Philippines and Turkey, p.236. Geneva, WHO.

Maternal nutrition is now regarded as a major contribution to the right start for the child. Children born to chronically malnourished mothers start life with a nutritional deficit which may never be made up and which may hinder the development of the child. Without proper nutrition, mother's milk may be quantitatively and qualitatively inadequate - and this is critical because breast milk is a means of life or death to the very young child. Infantile beriberi is directly due to a deficiency of Vitamin B in the mother's milk.

Babies who are born too close together are more likely to be of low-birthweight and suffer the drawbacks that go with it, but additionally the child born before the new baby may suffer from malnutrition as well. When another child appears quickly, the nursing child may be prematurely weaned and there may not be enough high-protein food to replace the mother's milk. The word 'kwashiorkor' in the Ga tribal language means the 'disease of the one displaced from the breast'.

There is also a close association between short birth interval and malnutrition. Again, there is much evidence of this problem and only a few examples are quoted here. In Colombia it was shown that 40 per cent of children born after an interval of 12 months or less were malnourished, compared with 27.3 per cent of those born after 42 months.[18] A study in one district in Thailand also showed 70 per cent of children born after less than 24 months interval to be malnourished compared with 53 per cent of those born after more than 24 months and 37 per cent of those with no more children following.[19]

This malnutrition, especially in the first year of the life of the child, could result in irreversible intellectual impairment despite later improved

environmental conditions and improved nutrition. A South African study carried out over a period of 15 years followed the development of children who suffered severe marasmic under-nutrition during the first year of their lives and the findings confirm this relationship.[20]

Intellectual attainment, too, may be affected by short birth interval. A study carried out in Singapore of the effect of birth interval on some physical and mental aspects of development in nine-year old children attending urban schools showed that those under 12 months' interval had lesser scores in vocabulary and in general performance than those with 24 and over months of birth interval. The height and weight of those with greater interval was more than those with under 12 months' interval.[21]

The quality of parent's care for the child especially in the first three years of life has been found to affect the mental development of the child. In most societies mothers offer most care and attention to the youngest child, who is carried around on the back or hip. Where there is a long birth interval, this child will have many months of care before the mother is again pregnant and starting to turn her attention to her next child. During this time, she may be breast-feeding her child as well as able to spend time preparing suitable additional foods and able to provide loving care and attention. The child born into the short interval family, however, will have only a few months of its mother's full attention as the youngest child.

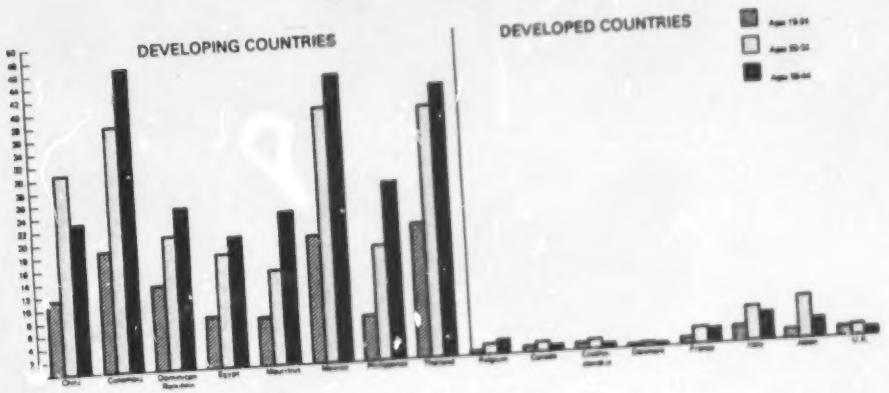
THE MOTHER

Although pregnancy is generally regarded as a normal process and is an experience that most women go through successfully and enjoy, it is a fact that a pregnant woman faces certain risks to her health. Throughout pregnancy the mother's body provides the sustenance necessary for the development of the fetus and so, during pregnancy, numerous biological changes take place. Many of the women's body systems are affected and the resulting physiological stress and disorders can range from minor temporary complaints to more serious complications. If a woman is young, healthy, receives proper nutrition and has good medical attention, the likelihood of complications during pregnancy is minimized. If, however, as is often the case in many parts of the world, the woman is pregnant at a time when she is already in poor health, if she does not receive adequate nutrition, and have access to proper medical attention, then pregnancy is a threat to her health and even to her life.

A vast amount of evidence has been accumulated which shows clearly that there are numerous health risks to the mother in pregnancies that occur too early in the life of the mother, too close together, or too often in her life. Although in recent years maternal mortality rates associated with child-bearing have declined dramatically in many countries, they remain extremely high in some developing countries, and even among the lower socio-economic groups in some developed countries. Figure 4 illustrates the difference in maternal mortality rates between developed and developing countries.

Figure 4:

COMPARISON OF MORTALITY RATES PER 100,000 WOMEN DURING THEIR REPRODUCTIVE YEARS, IN DEVELOPED COUNTRIES AND DEVELOPING COUNTRIES, FOR DEATHS DUE TO PREGNANCY AND CHILDBIRTH*



*The category "due to pregnancy and childbirth" includes numbers 112-118 from the "A" List of the International Classification of Diseases: toxemias of pregnancy and the puerperium, hemorrhage of pregnancy and childbirth, abortion induced for legal reasons, other, and unspecified abortion, sepsis of childbirth and the puerperium, other complications of pregnancy, childbirth and puerperium, delivery without mention of complication.

Source: Buchanan, R. (1975) Effects of Childbearing on Maternal Health, p.128, Washington, D.C.: George Washington University Medical Center (Population Reports, Series J., No.8), as adapted from data in World Health Statistics Annual (150).

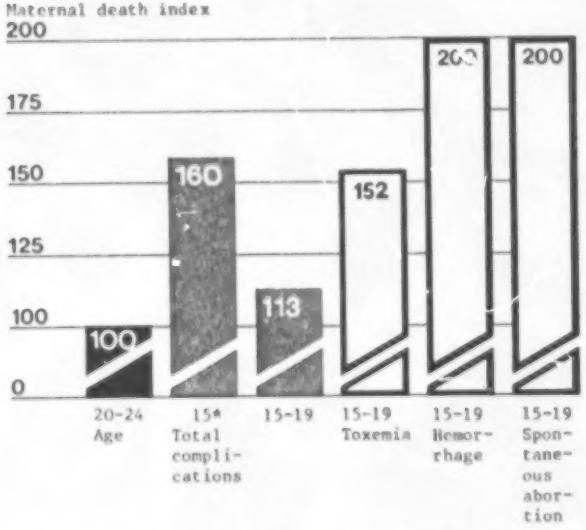
The main reasons for the decline in maternal deaths associated with child-bearing in developed countries have been improved standards of health care and nutrition and the fact that women in developed countries generally have fewer children and bear them during the period of their life when they are strongest, that is, between the ages of 20 and 35 years. Dorothy Nortman has calculated that if women had births only between the ages of 20 and 34, maternal mortality would come down by 19 per cent in Mexico, Thailand, Venezuela and the United States; by 23 per cent in Colombia and France; and by 25 per cent in the Philippines.[22]

Too early

Recent data from the United States, a country in which more than 11 million teenagers become pregnant annually, shows that the death rate from complications of pregnancy, birth and delivery is 60 per cent higher for women who become pregnant before they are 15 years of age; while the rate for 15-19-year-olds is 13 per cent greater than for mothers in their early 20s. For some causes of maternal mortality the difference by age is especially striking: toxemia is a special hazard of pregnancy among the very young because of lack of development of the endocrine system, the emotional stress of such early pregnancies, poor diet and inadequate pre-natal care. Pregnancy among young teenagers depletes nutritional reserves needed for their own growth and increases the risks of other ailments such as anaemia.[23] The following figures show the risks of fatal and non-fatal complications during pregnancy, labour and childbirth to 15-19-year-olds compared with mothers of 20-24 years.

Figure 5:

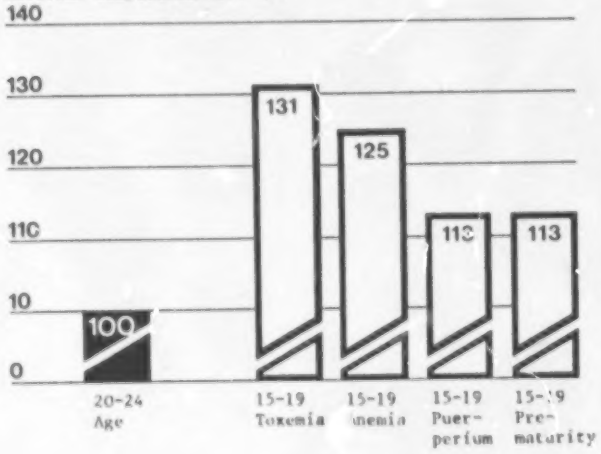
RISK OF FATAL COMPLICATIONS DURING PREGNANCY, LABOUR AND CHILDBIRTH TO TEENAGE MOTHERS AND MOTHERS 20-24, UNITED STATES, 1974
(RISK TO MOTHERS 20-24 = 100)



* Numbers too small to calculate ratios for individual complications

Figure 6:

RISK OF NON-FATAL COMPLICATIONS OF PREGNANCY, LABOUR AND CHILDBIRTH TO PREVIOUSLY NULLIPAROUS 15-19-YEAR-OLD MOTHERS AND 20-24-YEAR-OLD MOTHERS, UNITED STATES, 1960s
(RISK OF COMPLICATIONS TO MOTHERS 20-24 = 100)



Source: Alan Guttmacher Institute (1976) 11 Million Teenagers: What can be done about the Epidemic of Adolescent Pregnancies in the United States, p.23, New York: Alan Guttmacher Institute.

In many developing countries early marriage is still the norm, since particularly in rural areas, there are few other options for girls. In her study on Nutrition, Health and Fertility: the effects of Childbearing on the Health of Mothers and Children in East Africa, Peris Muriuki points out that "in East Africa the extended family system still commends respect, regardless of religious or tribal background. Women normally marry early and they are in almost a continuous state of pregnancy or lactation throughout their fertile years".[24] Poor standards of nutrition, and nutritional taboos which forbid women to eat certain foods when they are pregnant (for example eggs, chicken and certain types of mutton in East Africa) mean that the risks to the health of mothers under 20 are certainly as great, if not greater, than those to young mothers in the United States [25]

The adolescent mother is physiologically less prepared to breast-feed. Breast-feeding ensures that the child gets the nutrients needed and develops immunity to various diseases in early childhood (this is explored in more detail later in the text). It strengthens the bond between mother and child. At this young age, however, the mother may be emotionally unprepared to breast-feed and may lose the nutrients she so badly needs for her own growth.

Teenagers may have other problems in becoming responsible mothers who can develop the growth and personality of their children. The difficulties for many are summed up in a WHO Report:

"Patterns of family structure and control are changing and many of the methods by which societies traditionally prepared the young are being invalidated. Adolescents are often forced into situations where they are confronted with conflicting influences of what are perceived as modern

codes of behaviour on the one hand and traditional practices on the other. As a result they are increasingly channelled into socially marginal situations where they in turn become especially vulnerable to values and expectations that may have little social approval: they also find that few services are directed to meeting the needs they subsequently develop. Essentially 'Western', the youth culture to which they are exposed often bears little resemblance to the traditional context in which adolescents in developing societies previously functioned or to the requisites of their present transitional situation. Initiation rites and ceremonies marking puberty and the onset of adult status become less important and in some cases disappear entirely, while modern school-based instruction, even where it is available, cannot entirely fulfill the complete preparation of youth for adult and reproductive life that was previously undertaken by the family and community. Increasingly denied both traditional and modern instruction on matters relating to sex, adolescents are particularly susceptible to unplanned reproductive behaviour, unwanted pregnancy, abortion and the various consequences of these events."[26]

In the developed countries, too, young teenagers face several problems. In the United States it was found that adolescent mothers consistently experienced great difficulty in realizing their life plans. Marital instability, school disruption, economic problems, and difficulty in family size regulation and childbearing were some of the complications brought on by their premature, unscheduled childbearing. This of course is not a conducive atmosphere for the rearing of a child.[27]

Too late

At the other end of the age range, it is not yet well understood why reproductive capacity begins to decline well before the menopause, even though a woman continues to have regular menstrual periods and is

otherwise in good health. Hcwever, biological factors appear to play an important role. The health risk to the mother is high after the age of 35 years and rises continuously to the end of the child-bearing years.

Pregnancies too late in life are not conducive for the women's emotional and physchological well-being. In many countries after the age of 35 years, after having raised a family, the woman has a chance for the first time in her life for self-development and following a vocation. Continuing pregnancies after 35 years can therefore snatch away the only chance they have for self-development.

Too many

There is a strong relationship between the number of children, complications of pregnancy and the rate of maternal mortality. The chance of a woman dying from her first pregnancy or childbirth is slightly greater than for the second and third births; after that the risks rise gradually with each subsequent pregnancy until the fifth, after which there is an even more dramatic rise.[28] Figure 7 on p. 26 illustrates the relative risks to the mother at different parities.

Table 3: MATERNAL MORTALITY BY MATERNAL AGE IN SELECTED COUNTRIES

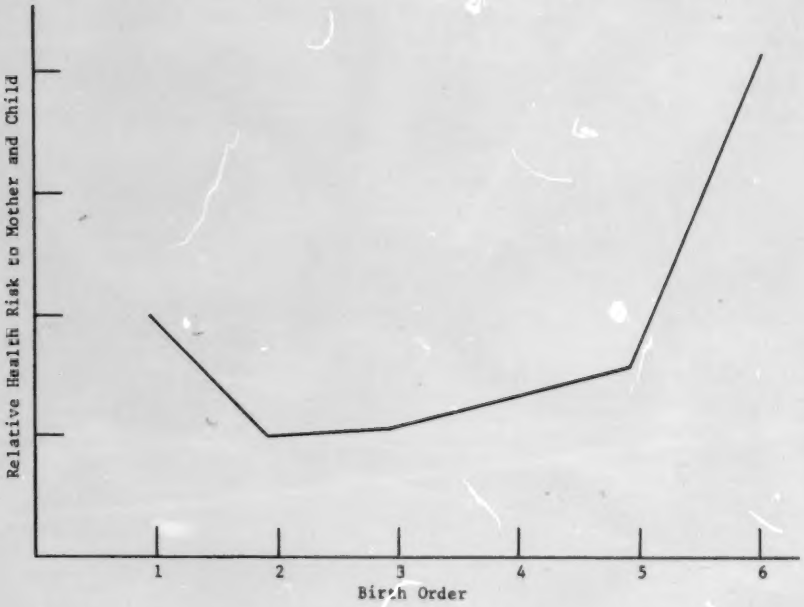
Maternal Age	United States 1974	Thailand 1971	Matlab Thana, Bangladesh 1968-70
	(maternal deaths per hundred thousand live births)		
19 and below	11	204	860
20-24	10	154	380
25-29	13	154	520
30-34	24	209	620
35-39	41	275	480
40-44	86	474*	810
45 and over	234	-	**
All ages	15	210	570

* 40 and above. ** No reported deaths in small sample

Source: Eckholm, E. & Newland, K. (1977) Worldwatch Paper No. 10, January, p.10, Worldwatch Institute Washington, D.C., as adapted from US Center for Vital Statistics, N.H. Wright, Ford Foundation, N.Y.

Figure 7:

RELATIVE MATERNAL HEALTH RISKS AT DIFFERENT PARITIES



Source: Buchanan, R. (1975) Effects of Childbearing on Maternal Health, p.129, Washington, D.C. George Washington University Medical Center (Population Reports, Series J., No.8), as adapted from Omran, A.R. (1974)Health Benefits of Family Planning for Mother and Child, World Health, January,6-13.

It has been found that the incidence of toxaemia and other complications of pregnancy such as difficult labour, ruptured uterus, hypertension and kidney disease, is higher for women who have given birth to five or more children.[29]

Although high parity has been implicated as a possible factor causing twice as many women as men to develop diabetes after the age of 40, the relationship has not been definitely established. It is, however, known that pregnancy worsens existing diabetes and that it causes biochemical symptoms to appear in a previously non-diabetic woman. Some researchers, noting that the incidence of diabetes in women over 40 increases with increasing parity, have calculated the excess maternal risk caused by child-bearing. They have compared women who have had no children with women of varying parity and have concluded that the likelihood of developing diabetes is about 20 per cent greater for women with one child, 45 per cent for women with two children, 100 per cent for three, 200 per cent for four or five and over 400 per cent for six or more children. (The likelihood that a man over 40 will develop diabetes is about equal to that of a woman with two children).[30]

Too close together

Closely associated with high parity as a cause of maternal morbidity and mortality are pregnancies that are too close together. After each delivery a mother's body needs a minimum of two years, with adequate nutrition, to replenish its nutrients and to return to its pre-pregnant state. The more poorly nourished a woman is, the longer the interval between pregnancies should be. If one pregnancy follows too closely on another the mother's body is still nutritionally deficient, resulting in low weight gain during pregnancy, severe anaemia and high rates of maternal mortality.

One of the most common disorders associated with pregnancy in developing countries is nutritional anaemia; this is an abnormally low haemoglobin content in the blood resulting from a deficienty of iron, vitamin B12, or folic acid, and because it is so common in developing countries, is often regarded as being a normal condition of pregnancy. One report from India indicates that 20 to 50 per cent of pregnant women had folate deficiency anaemia and similar results have been reported from South America.[31] This condition has been called the 'maternal deprivation syndrome' by Dr. Derrick B. Jelliffe. In Bangladesh, the condition is so common and so easily recognizable that the people have a vernacular name for it: 'shutike'.[32]

Nutritional anaemia can lead to maternal mortality and, because it reduces a woman's resistance to infection, it increases the risk of complications in pregnancy. In a study of maternal mortality in Bombay, anaemia was the single most important factor contributing to death, and the death rate from anaemia-related causes among women bearing six or more children was twice that among women bearing their first child. Multiparity and short birth intervals are thus associated with severe anaemia in developing countries where inadequate diet, recurrent infections and diseases aggravate the situation.[33]

Need for family planning

The need for family planning by many couples in countries where family planning information and services are not yet available is evident from the widespread practice of illegal abortion. Abortion is the least acceptable, and yet the most frequently used method of planned parenthood in the world. It is resorted to by many women because they

do not have access to family planning services. It has been estimated by the IPPF Survey of Unmet Needs carried out in 1977 that one pregnancy for every three live births is deliberately terminated either legally or illegally and that in some areas of the world over half of all pregnancies end with an abortion. In countries where legal abortion facilities do not exist or are restricted, many women are forced to risk their health and often their lives by illegal abortions carried out by unqualified persons in ill-equipped premises. The survey showed that of 550 million women at risk of unwanted pregnancies, only about half that number have adequate knowledge of family planning, most of them living in industrialized societies.

Illegal abortion is an important cause of maternal death. In Chile, for example, a study showed that an estimated 39 per cent of all maternal deaths in 1963 resulted from complications of illegal abortion, while data from the United States have clearly shown the contrast between mortality rates associated with legal and illegal abortions; 3 per 100,000 abortions and 100 per 100,000 abortions respectively.[34]

It is therefore in the interest of the health of the mother to use reliable contraceptives, rather than resort to abortion for planning their families. In circumstances where abortion is considered appropriate or necessary, it should be performed under hygienically safe, medically approved conditions. In programme terms it means that safe, reliable contraceptives be made available to women in ways in which they are most likely to accept them and continue their use as long as required.

All common methods of contraception, including the Pill, carry fewer risks to the mother than do pregnancy and childbirth. The only exception concerns women over 40; for them, using oral contraceptives involves a slightly higher risk than the risk associated with childbearing.

particularly if they are heavy smokers.

WHAT CAN BE DONE

In order to achieve the maximum happiness, development and safety of the child and the mother, it is necessary for a woman to have access to information and services, and to ensure:

- the postponement of the first pregnancy until she is in her early 20s;
- a gap of 2½ to 4 years between subsequent pregnancies,
- the cessation of pregnancies after she attains the age of 36 years;
- and the achievement of a planned total family size.

Services

Despite the obvious relationship between maternal and child health and family planning, services for family planning have too often been considered separately. As early as 1974, WHO, in a working paper, reinforced the maternity-centred family planning approach.[35] This requires family planning services to be integrated into other health services especially nutritional programmes, child care programmes and special programmes for vulnerable groups. Contraceptive information and services are being introduced into the wider system of primary health care, stressing the importance of birth spacing and birth planning for the health of the mother and child.

IPPF is actively engaged in promoting the integration of family planning and nutrition. The Federation's staff nutritionist works with FPAs and other international agencies to spread knowledge and awareness of this relationship. A series of projects in Asia, financed by a special grant from the Japanese government, are testing the benefits of inter-related services in nutrition, parasite control and family planning. Family planning associations in Thailand, Indonesia and the Philippines are co-operating in the projects.

In addition to the direct contribution of family planning, IPPF has many other projects which demonstrate its concern for the health of children. An example can be cited in Ghana, where the Planned Parenthood Association collaborates with the Ministry of Health and the Catholic Relief Services to offer immunization, nutrition education, and home management at the same time as information and services for family planning are provided. In 1978 some 60 projects were initiated in various parts of the world to test and demonstrate ways of improving the general condition of women. Training and educational materials produced by IPPF place strong emphasis on the health benefits of family planning and these other closely related factors.

Under 20s

Traditionally in Asia and many parts of Africa, early marriage for girls is encouraged, resulting in adolescent childbirth within a socially acceptable pattern. Some African cultures permit premarital adolescent sexual activity, but discourage pregnancy by various rituals. Where these traditions prevail, pre-marital pregnancy may result in forced marriage, legal action, ostracism, abortion or even infanticide. Today, earlier sexual maturity, later marriage, and greater opportunities for sexual contacts due to urban lifestyles are creating problems of adolescent pregnancy[36] outside marriage as well as within, and all countries are affected.

Education

Young people have the right to be properly prepared for adult life. Education in human sexuality and in family life should be part of the normal education process, both at home and at school. Dr. Fred Sai notes that such education should not merely deal with the biological features of sex and reproduction but should include the social structure,

expectations in relation to sex and marriage and psychological and emotional aspects. Before young people mature fully, they should be informed about the problems related to early pregnancies and guided towards protecting themselves against unwanted pregnancy without affronting social mores. It is a matter for each society to decide at what age and under what circumstances contraceptive advice and services should be provided. However, nothing but harm can be done if such educational services are withheld from sexually active youngsters.[37] Special emphasis on post-partum counselling and services for the under 20s, both married and unmarried, is necessary.

Education is a major service which IPPF and the FPAs offer young people. For example, the Federation of Family Planning Associations in Malaysia which set up a Community Education Service Project to provide family life education to 13,000 young girls working in factories, over a period of three years. The Indonesian Planned Parenthood Association integrated population education into existing vocational and religious classes and youth activities in a project near Jakarta. The Family Planning Organization of the Philippines has involved young people, especially those not in school, in providing family planning education, information and motivation to other young people. The British FPA's Grapevine project, using a similar approach, has achieved considerable success. Young people have a genuine curiosity about matters likely to affect their own future and often demonstrate a lively concern for social, economic, environmental and population issues. Education on the broader aspects of population and development should be provided alongside the more intimate discussions about personal behaviour.

Provision of services

In many countries it is not legal to provide contraceptives to the young and unmarried. The provision of contraceptives has traditionally been organized

with the married and multiparous woman in mind. Even where they are not barred outright from using such services, young people are often viewed as deviant and promiscuous and must seek advice from health personnel who are much older and who are either unsympathetic or unable to communicate meaningfully with them. Contraceptive services that do reach teenagers are often part of post-abortion or post-partum programmes, which automatically limits the recipient group and offers services too late. A further limitation is that these services are almost always directed to the female population, whereas it is of vital importance to prepare young men to take their share of the responsibility.

There is no evidence of a causal link between contraception and promiscuity and present knowledge suggests that a realistic approach to contemporary changes in adolescent behaviour is to combine wise counselling with the availability of accessible, cheap and easy-to-use contraceptive services.

20-35-year-olds

Young adults need to understand fully all the health-related aspects of family planning that affect their own and their children's health. The most important of these is birth-spacing. In Indonesia, for instance, a physician is promoting this concept by talking in terms of child weight. He points out that since village markets are operated by women, who conduct business using simple balances, all mothers are aware that 'things that weigh more are worth more'. In Yogjakarta, women are being advised to postpone pregnancy until the youngest child weighs at least 13 kilograms - the average weight of a four-year-old Indonesian.[38]

Breast-feeding and traditional practices

It is important to note that in some societies traditional customs helped women to space pregnancies; for example in some societies husbands and wives lived separately for a certain period after the birth of a child

and in many societies there is a taboo against a mother and her daughter being pregnant at the same time, or against a grandmother becoming pregnant.[39]

Breast-feeding is another traditional form of contraception; on average, breast-feeding inhibits ovulation for about six months. As we have seen in the East African situation this method of contraception was often reinforced by a taboo on sexual relations during the period the mother was breast-feeding.[40] Rural studies in Java, Bangladesh, Rwanda, Nigeria and Senegal have shown that the return of fertility is postponed by, on average, more than a year in breast-feeding women compared with those who do not breast-feed. In India, Taiwan and Korea a postponement of 8-12 months has been observed.[41] These traditional customs are now breaking down in many parts of the developing world, without being replaced with knowledge of and access to family planning services.

Although breast-feeding may provide fairly reliable protection during the period when menstruation does not occur, some women do become pregnant before menstruation begins again. After menstruation returns, the protection is unreliable and in many areas pregnancy is the most common reason for discontinuing breast-feeding. When supplementary feeding is started, about four months after delivery, this may reduce lactation and the fertility protection provided by lactation amenorrhoea. When a pregnancy occurs at this stage it causes a nutritional crisis for the nursing infant, with the risk that another contribution will be made to the high mortality rates described earlier.

Some form of contraceptive is recommended, beginning four to six months after delivery, to protect the lactating mother against a new pregnancy. Combined oestrogen-progestagen oral contraceptives may reduce the amount

of milk and the duration of lactation in some women due to the action of the oestrogen component of the Pill. However, an IUD can be provided, or condoms, or a low oestrogen combined or progestagen-only contraceptive. Some progestagen-only contraceptives are known to increase the duration and volume of lactation, and these pills may therefore be especially appropriate for a nursing mother immediately post-partum.

The universal desire to avoid pregnancy while breast-feeding in order to ensure the well-being of the present child can serve as an introduction to the use of contraception. Every effort should be made at all levels in family planning programmes to improve the interaction between breast-feeding and family planning.

A major emphasis of IPPF nutrition activities is breast-feeding, which gives a child the best possible nutritional start in life. IPPF's Sixth Biomedical Workshop was devoted to family planning and lactation. Underlining the importance of breast-feeding and child spacing, the meeting considered how best to meet the needs of the lactating mother who wishes to nurse and wean her child, but not become pregnant. IPPF delegates to the major UN conferences of the 1970s have worked with other NGOs to win official recognition in resolutions and plans of action of the importance of breast-feeding and the special needs of nursing mothers.

Integration with other services

Another way to introduce men and women to the benefits of planned parenthood could be to train social workers, midwives and paramedics to talk about the growth and well being of the present and future children just after the first delivery or at the post-partum stage. Women themselves need to be educated regarding the use and continuation of contraception.

In some African and Asian countries 'under-five clinics' have been set up to provide curative and preventive treatment to children. A special feature of the clinic is its record-keeping system, the 'Road to Health' card. The card, kept by the parents, charts progress on the growth, development and immunization status of the child. The concept of child-spacing could be promoted through this card system.

Most important of all is the provision of cheap or free contraceptives, through clinics, home visits and community channels. In many countries IUDs and oral contraceptives are dispensed by specially trained midwives, fieldworkers and other auxiliary health personnel. The proper use of conventional contraception such as condoms, foams and diaphragms should also be encouraged.

No amount of education or counselling will help if services and supplies are not available. All health personnel, including midwives and social workers should be aware of these established facts about child health. Special training may be needed to create an understanding of the contribution of family planning to the growth and well-being of present and future children so that these community workers can in turn counsel and educate prospective parents.

Family planning is part of the Road to Health for children. It should be taught wherever facilities have been set up to promote the healthy physical growth and development of the child.

Community-based distribution of family planning services has proved an effective response for low cost family planning programmes to meet basic community needs. The oldest and largest programme is operated by the Mothers' Clubs of Korea, which began with the co-operation of the Planned Parenthood Federation of Korea in 1968. Within a few years

they were supplying contraceptives to 700,000 women. Members of the clubs act as distributors of Pills and condoms and help women who prefer IUD or sterilization to obtain these from clinics. The Mothers' Clubs do more than distribute contraceptives. They have helped to improve the standard of family life generally by encouraging women to cultivate small market gardens and undertake small livestock projects. Co-operative agricultural projects and income-producing projects such as clothes making have provided cash or capital which is invested in new money raising projects.

Over 40s

There are special problems for women who are over 40 years of age. Not only is desired family size usually achieved by this age, but some methods of contraception, in particular oral contraceptives, may not be suitable especially over long years of use. As explained earlier, there are greater health risks in pregnancy both to the mother and the child. Services such as sterilization and abortion may be appropriate, and counselling is desirable to ensure that women understand all the alternative services at their disposal and the risks involved if they should choose child-birth at this late stage of the reproductive period.

Conclusion

UNICEF, designated as the lead agency of the UN system for IYC, has observed, "IYC will be a success only if the man in the street becomes more aware of the needs of children during the year. If he does, it is more than likely that he will get his information from an NGO working at the local level." The year will truly be a success if his child is demonstrably better off because of IYC, and it is that challenge which the IPPF is particularly well equipped to accept.

UNICEF hopes that the special programmes designed for IYC will become permanent fixtures in the social welfare infrastructure. This will mean designing programmes which can be replicated so that all children will ultimately benefit from the programmes which can only benefit some within the time limitation of a single year.

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Glossary

1. Early fetal death - a fetal death occurring during the first 20 weeks of gestation.

2. Infant mortality - all deaths in the first year of life.

3. Infant mortality rate - number of deaths in one year among children under one year of age per 1,000 live births during the same year.

4. Intermediate fetal death - a fetal death occurring from the 21st to the 28th week of gestation.

5. Late fetal death - a fetal death occurring after 28 weeks of gestation.

6. Maternal morbidity - illness associated with pregnancy and/or childbirth.

7. Maternal mortality - death attributed to factors associated with pregnancy and/or childbirth.

8. Multipara - a woman who has borne two or more children.

9. Neonatal period - the first four weeks of life.

10. Nullipara - a woman who has borne no children.

11. Perinatal period - from 28 weeks of gestation to the first week of life.

12. Post-partum/post-natal - refers to the period immediately after birth.

13. Post-neonatal mortality - deaths after the first four weeks of life but before the end of the first year.

14. Primigravida - a woman who is having her first child.

15. Puerperium - the period of six weeks during which the reproductive organs are returning to their normal condition following labour.

16. Stillbirth - the birth of a fetus after the 28th week of pregnancy in which pulmonary respiration does not occur.